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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/588,364	06/02/2000	Mitsuaki Oshima	MTS-520US1	8366

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PO Box 980
Valley Forge, PA 19482

EXAMINER

KABAKOFF, STEPHEN ERIC

ART UNIT	PAPER NUMBER
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2132

DATE MAILED: 12/20/2001

10

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/588,364

Applicant(s)

OSHIMA ET AL.

Examiner

Steve Kabakoff

Art Unit

2132

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 October 2001.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-11, 13-25 and 27 is/are allowed.
- 6) ☒ Claim(s) 12, 26 and 28-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 08/560,015.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 2132

DETAILED ACTION

1. Claims 1-35 have been examined. Applicant added new claims 30-35 in the response filed October 5, 2001 (paper number 8).

Certificate Under 37 CFR 3.73(b)

2. The 37 CFR 3.73(b) submission received in the response filed October 11, 2001 (paper number 9) has been accepted. The examiner has removed the objection to the 37 CFR 3.73(b) submission issued in the last Office action.

Drawings

3. The corrected or substitute drawings were received on October 5, 2001 (paper number 8). These drawings are accepted.

Reissue Oath / Declaration

4. The substitute reissue oath/declaration filed by the applicants in their response of October 11, 2001 (paper number 9) is accepted and obviates the 35 U.S.C. 251 claim rejections issued in the last Office action. The applicant's claim to foreign priority documents in the substitute reissue oath/declaration submitted October 11, 2001 (paper number 9) is acknowledged.

Claim Rejections - 35 USC § 112

5. Applicant's amendments to claim 13 in the response filed October 5, 2001 (paper number 8) obviate the 35 U.S.C. 112, second paragraph rejection issued in the last Office action.

Response to Arguments

6. Applicant's arguments with respect to claims rejected in the last Office action (paper number 5) have been considered but are moot in view of the new ground(s) of rejection.

As indicated in the interview conducted July 27, 2001 (paper number 6), the limitation of "an optical disk having pits indicating data signals readable by light radiation" in claim 1 differentiates the optical disk in amended claim 1 from the optical disk in Cato et al (US 4758058).

With respect to claims 28 and 29, the applicants argue "Ikeda does not trim the reflective layer to form a mark" in contrast to the amended version of the claimed inventions presented in the applicant's response filed October 5, 2001 (paper number 8). Based on page 7 of the applicant's response, the basis for "trimming" the reflective layer can be found in the applicant's specification at column 7, lines 4-7.

The examiner agrees that Ikeda (US 5050150) does not explicitly teach trimming a reflective layer to form a barcode, and Ikeda (US 5050150) appears to remain silent in regards to how the barcodes in Figures 1 and 2 are generated on the optical disk. Upon further searching, the examiner found the Wilson et al (US 4961077) prior art reference that explicitly discloses laser trimming of a reflective metal layer to form a barcode on an optical disc.

Also, the examiner understands the "low reflective" markings in the claimed inventions are formed by a laser trimming process as stated, for example, in column 9, lines 8-9 of the applicant's specification and discussed in the interview conducted July 27, 2001 (paper number 6).

It is known in the art of DVD technology to include a burst cutting area (BCA) comprising a barcode formed via laser trimming of a reflective layer on an inside track of an optical disk. However, the examiner was not able to find a prior art reference earlier than the November 17,

Art Unit: 2132

1994 priority date claimed in the applicant's substitute reissue oath/declaration that explicitly discloses BCA formation.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 12 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato (US 4503531) in view of Wilson et al (US 4961077).

As per claims 12 and 26, the claimed inventions teach an optical disk having a reflective film and pits indicating data signals readable by light radiation such that at least one marking is formed by laser trimming the reflective layer on at least one of two optical disks laminated together.

Wilson et al (US 4961077) discloses read-only optical disks, such as CD-type disks known in the art at the time of the inventions that inherently comprise information stored in pits (column 1, lines 15-22), such that laser trimming is used to remove portions of a reflective layer to form a marking on the optical disk (column 2, lines 20-35) where the marking may be a barcode (column 1, line 56).

Wilson et al (US 4961077) differs from the claimed inventions since Wilson et al (US 4961077) does not teach laminating two substrates together. However, this was a common method known in the art at the time of the invention to double the capacity of a conventional CD-type optical disk as illustrated in Figures 1 and 2 of Kato (US 4503531).

It would have been obvious to one of ordinary skill in the art at the time of the invention to laminate two of the optical disks having laser-trimmed barcode markings disclosed in Wilson et al (US 4961077) using the technique in Kato (US 4503531) in order to double the capacity of the optical disk as was well known in the art of optical data storage at the time of the inventions.

9. Claims 28-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda (US 5050150) in view of Wilson et al (US 4961077).

As per claims 28, 29, 33 and 34, the claimed inventions teach an optical disk and its associated method of manufacture such that the disk comprises (a) an embossed data zone having pits indicating data signals that are readable by light irradiation, (b) a reflective layer on top of the embossed data zone, (c) low-reflective markings formed by laser trimming and (d) the low-reflective markings forming a barcode pattern indicating information .

In Fig. 1, Ikeda (US 5050150) discloses an optical disk comprising an embossed data zone having pits indicating data signals that are readable by light radiation, although the Examiner notes that almost all compact disks (CD) known in the art at the time of the invention having data recorded in pre-pits situated in a land/groove arrangement would meet limitations (a) and (b) of the claimed inventions.

Ikeda (US 5050150) also discloses a barcode pattern formed on the embossed data zone (Figs. 1 and 2 and col. 2, lines 39-41) where the barcode pattern indicates information (col. 2, lines 1-3). Thus, Ikeda (US 5050150) also discloses limitation (d) of the claimed inventions.

Ikeda (US 5050150) differs from the claimed inventions in regards to limitation (c) above since Ikeda (US 5050150) is silent regarding how the barcode markings on the disclosed optical disk are generated.

Art Unit: 2132

However, Wilson et al (US 4961077) discloses read-only optical disks, such as CD-type disks known in the art at the time of the inventions that inherently comprise information stored in pits (column 1, lines 15-22), such that laser trimming is used to remove portions of a reflective layer to form a marking on the optical disk (column 2, lines 20-35) where the marking may be a barcode (column 1, line 56).

It would have been obvious to one of ordinary skill in the art at the time of the invention to form the barcode markings in Ikeda (US 5050150) using laser trimming, as taught in Wilson et al (US 4961077), since the laser trimming technique in Wilson et al (US 4961077) would generate the barcode markings required in Figs. 1 and 2 of Ikeda (US 5050150) without damaging the disk surface or its underlying optical layers (see Wilson et al (US 4961077) column 2, lines 30-35).

As per claim 30, the combined teachings in Ikeda (US 5050150) and Wilson et al (US 4961077) disclose a data zone having information stored in pits as shown in reference number 1a in Fig. 1 of Ikeda (US 5050150) and inherent to the standard CD-type optical disks as disclosed in column 1, lines 15-20 of Wilson et al (US 4961077).

As per claim 31, Figure 2 in Ikeda (US 5050150) explicitly shows the barcode markings placed in a data zone comprising pits, and it would have been obvious to one of ordinary skill in the art at the time of the invention that pits may be present between successive markings since the markings are physically placed over a data zone comprising pits on the optical disk.

As per claims 32 and 35, the claimed inventions teach the portions of the reflective layer being trimmed are free of data readable signals. The examiner notes the claim limitations in claims 32 and 35 do not imply pits may not be present in the portions of the reflective layer being laser trimmed, but rather the claims only stipulate the portions being trimmed are free of data readable signals.

Art Unit: 2132

Since reference number 1a in Figure 1 of Ikeda (US 5050150) is used to record or read optical information on or from the optical disk (column 1, lines 26-28) and reference number 1b in Figure 1 of Ikeda (US 5050150) stores preformat data in the form of barcodes (column 1, lines 28-31), it would have been obvious to one of ordinary skill in the art at the time of the invention that data readable signals in the combined teachings of Ikeda (US 5050150) and Wilson et al (US 4961077) are stored in the area identified by reference number 1a in Figure 1 of Ikeda (US 5050150) whereas only barcode information is stored in the preformat area identified by reference number 1b in Figure 1 of Ikeda (US 5050150).

Allowable Subject Matter

10. Claims 3-11, 15-20, 22-25, and 27 are allowable over the prior art of record.

The limitation of encrypting outputted position information or applying a digital signature to outputted position information and writing the result of encrypting or digitally signing the position information onto a disk using an apparatus as claimed was not found in a single reference nor in a combination of references in the prior art of record.

11. Claims 1, 2, 13, 14 and 21 are allowable over the prior art of record.

The claimed inventions include the limitation of a marking position detecting means for detecting the position of low-reflective markings on an optical disk having pits indicating data signals readable by light radiation such that the detected position information is outputted for the purpose of comparing the detected position of a low-reflective marking to its actual position.

The examiner was not able to find a single reference nor a combination of references in the prior art of record that teach an optical disk having pits indicating data signals readable by light radiation that is utilized in an apparatus or method comprising the above-noted limitation.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Nakajo (US 5502702) – see Fig. 3

Brownstein et al (US 489768)

Sugita et al (JP 4338872 A)

Li (US 5549953)

Yatake (US 5197060)

Kildal et al (US 5061341)

"Replication and BCA," <http://www.panasonicdvd.com/rep.html>

"NSM Storage – Jukebox and Storage ABC"

Art Unit: 2132

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steve Kabakoff whose telephone number is (703) 306-4153. The examiner can normally be reached on 8:30am to 6:00pm except every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert DeCady can be reached on (703) 305-9595. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

SK
SEK
December 14, 2001

Davidson

DAVID JON

PRIMARY EXAMINER